

ARISTAPEDIA IN A HYMENOPTERAN PARASITOID¹

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ABSTRACT: Aristapedia in a wild female *Enicospilus americanus* (Christ) (Hymenoptera: Ichneumonidae) is described, and figured. The head is generally deformed. The terminal three segments of the flagellum of the left antenna are apparently identical to a normal pretarsus and two tarsomeres.

DESCRIPTORS: aristapedia, homoeosis, antenna, Ichneumonidae, *Enicospilus americanus* (Christ)

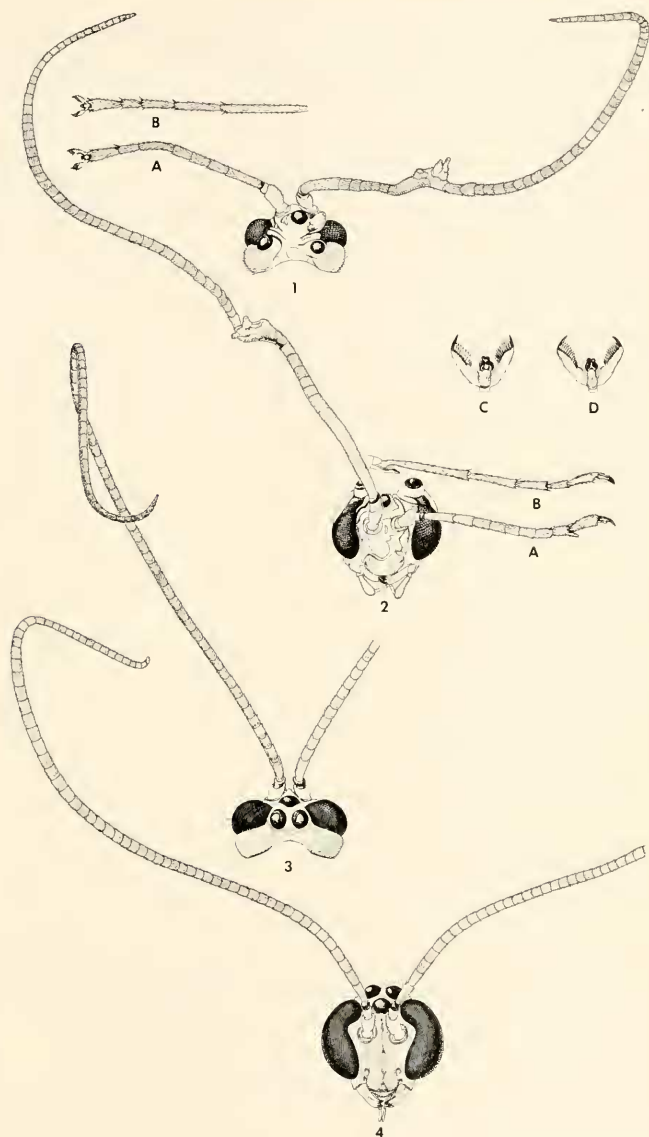
The interpretation of aristapedia and other forms of homoeosis (Villeg 1942) is still being debated (Wigglesworth 1972). Nevertheless, these phenomena raise significant questions about the evolution of insects and the control of development. Homoeotic laboratory strains and experimentally induced homoeosis have been reported several times, but its occurrence in nature—as in this instance—has apparently been seldom noted. (Hadorn 1966, Villeg 1943, Wigglesworth 1972).

In the winter of 1972-73 we collected in Champaign, Illinois, a cocoon of *Hyalophora cecropia* (L.) (Lepidoptera: Saturniidae) which, unknown to us, contained a cocoon of the parasitoid *Enicospilus americanus* (Christ) (Hymenoptera: Ichneumonidae). It was held unopened in an outdoor insectary until March 25, 1973, when it was transferred to an incubator at 25°C, with a 17L-7D photo-period. The abnormal female ichneumonid described below emerged on May 18, 1973.

The illustration shows dorsal (Fig. 1) and frontal (Fig. 2) views of the abnormal head and corresponding views (Figs. 3 and 4) of the head of a normal female. The abnormal head capsule is generally deformed; the compound eyes are small and misshapen; and the ocelli are widely spaced and on separate conical projections rather than on a common base. The mouthparts appear to be normal. The antennal sockets are slightly asymmetrical, with the left misplaced dorsolaterally.

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Figs. 1-4: Heads of aristapedic (1 and 2) and normal (3 and 4) *Enicospilus amercanus*; dorsal views (1 and 3) and frontal views (2 and 4). The aristapedic antenna (1A and 2A), a normal tarsus and pretarsus (1B and 2B), and enlarged views of the aristapedic (2C) and normal (2D) pretarsi are compared.

The left antenna exhibits a remarkably perfect aristapedia. The antennal socket, antennal sclerite, and the scape are slightly deformed; the pedicel appears normal. The flagellum is short, with only ten apparent subsegments. The proximal seven resemble normal flagellar subsegments, but the eighth and ninth appear almost identical to the two distal tarsomeres of a normal leg, and are articulated like tarsomeres rather than like flagellar subsegments (Fig. 1, A and B; Fig. 2, A and B). The tenth is apparently identical to a normal pretarsus (Fig. 2, C and D). It has an apparently normal arolium and the claws seem normal in position, size, shape, and pectination. The claws articulate with an unguitractor plate whose base extends into the preceding subsegments in the form of a tendon resembling the pretarsal retractor tendon of a normal leg.

The right antenna is of approximately normal length. The basal third of the flagellum is indistinctly segmented and somewhat deformed, but the distal two-thirds and the scape and pedicel appear normal. The flagellum is grossly deformed about a third of its length from the base, where there is an indication of two additional shafts—one with one subsegment and the other with two (Figs. 1 and 2).

The abnormal specimen described here and the normal one used for comparison have been deposited in the collection of the Illinois Natural History Survey, Urbana.

ACKNOWLEDGEMENTS

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